List of Claims:

1. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a triggering characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the speech signal for a frame associated with the interval, the first encoding scheme having a pre-processing procedure for processing the inputted speech signal to form a revised speech signal biased toward a generally ideal voiced and stationary characteristic; and

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon the detection or absence of the triggering characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 25 bits for filter coefficient indicators, 1 bit for a type indicator, 8 bits for ~~said~~an adaptive codebook index, 120 bits for ~~said~~a fixed codebook index, 6 bits for an adaptive codebook gain, and 10 bits for a fixed codebook gain.

2. (currently amended) The speech encoding system according to claim 1 where the triggering characteristic comprises a generally voiced and generally stationary speech component of the input speech signal.

3. (original) The speech encoding system according to claim 1 where the selector selects the first encoding scheme if the detector determines that the speech signal is generally stationary and generally periodic during the frame.

4. (currently amended) The speech encoding system according to claim 1 where the selector selects the second encoding scheme if the detector determines that the input speech signal is generally nonstationary during the frame.

5. (original) The speech encoding system according to claim 1 further comprising:

a perceptual weighting filter for filtering the input speech signal;

a pitch-preprocessing module having an input coupled to an output of the perceptual weighting filter, the pitch pre-processing module determining a target signal for time warping the weighted speech signal.

6. (currently amended) The speech encoding system according to claim 1 further comprising a pitch pre-processing module for determining an input pitch track based on multiple frames of the input speech signal and altering variations in the pitch lag associated with samples to track the input pitch track.

7. (original) The speech encoding system according to claim 1 where the first encoding scheme has a first allocation of storage units per frame between a fixed codebook index and an adaptive codebook index, the second scheme having a second allocation of storage units per the frame between the fixed codebook index and the adaptive codebook index, where the first allocation differs from the second allocation.

8. (original) The speech encoding system according to claim 7 where the second allocation of storage units per frame allocates a greater number of storage units to the adaptive

codebook index than the first allocation of storage units to facilitate long-term predictive coding on a subframe-by-subframe basis.

9. (original) The speech encoding system according to claim 7 where the first allocation of storage units per frame allocates a greater number of storage units for the fixed codebook index than the second allocation does to reduce a quantization error associated with the fixed codebook index.

10. (original) The speech encoding system according to claim 7 where the second encoding scheme has a higher allocation ratio than the first encoding scheme, the allocation ratio defined by a number of storage units allocated to the adaptive codebook index divided by the number of storage units allocated to the adaptive codebook index plus the fixed codebook index.

11. (currently amended) The speech encoding system according to claim 7 where, the selected rate for coding the input speech signal is full-rate, where the first encoding scheme uses the first frame type for coding the input speech signal at the full-rate and the second encoding scheme uses the second frame type for coding the input speech signal at the full-rate.

12. (previously presented) The speech encoding system according to claim 7 where, if the selected rate is a higher-rate coding, the first encoding scheme uses the first frame type and the second encoding scheme uses the second frame type, and if the selected rate is a lower-rate coding the first encoding scheme uses a third frame type and the second encoding scheme uses a fourth frame type.

13. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a generally voiced and generally stationary characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the input speech signal for a frame associated with the interval, the second encoding scheme having long-term prediction procedure for processing the input~~ted~~ speech signal on a sub-frame-by-subframe basis;

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon said detection or absence of the generally voiced and generally stationary characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 25 bits for filter coefficient indicators, 1 bit for a type indicator, 8 bits for ~~said~~an adaptive codebook index, 120 bits for ~~said~~a fixed codebook index, 6 bits for an adaptive codebook gain, and 10 bits for a fixed codebook gain.

14. (currently amended) The speech encoding system according to claim 13 where the selector selects the second encoding scheme if the detector determines that the input speech signal is not generally periodic during the frame.

15. (currently amended) The speech encoding system according to claim 13 where the selector selects the second encoding scheme if the detector determines that the input speech signal is generally nonstationary during the frame.

16. (original) The speech encoding system according to claim 13 where the second encoding scheme has a pitch track with a greater number of bits per frame than the first encoding scheme to represent the pitch track.

17. (currently amended) A speech encoding method comprising the steps of:

detecting whether an input speech signal has a triggering characteristic during an interval;

selecting one of a first encoding scheme and a second encoding scheme, for application to the input speech signal for a frame associated with the interval, based upon said detection of the triggering characteristic; and

processing the input~~ted~~ speech signal in accordance with the first encoding scheme to form a revised input speech signal biased toward a generally ideal voiced and stationary characteristic if the triggering characteristic is detected in the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 25 bits for filter coefficient indicators, 1 bit for a type indicator, 8 bits for ~~said~~an adaptive codebook index, 120 bits for ~~said~~a fixed codebook index, 6 bits for an adaptive codebook gain, and 10 bits for a fixed codebook gain.

18. (currently amended) The method according to claim 17 where the detecting step comprises detecting whether the input speech signal generally has a generally voiced and generally stationary component as the triggering characteristic during ~~an~~the interval.

19. (original) The method according to claim 17 further comprising the step of supporting the first encoding scheme having a first allocation of storage units per the frame between a fixed codebook index and an adaptive codebook index, the second encoding scheme having a second allocation of storage units per the frame between the fixed codebook index and the adaptive codebook index, where the second allocation differs from the first allocation

20. (currently amended) The method according to claim 17 further comprising the step of processing the input~~ted~~ speech signal on a sub-frame-by-subframe basis in accordance with a long-term prediction procedure of the second encoding scheme if the triggering characteristic is not detected during the interval.

21. (currently amended) The speech encoding system according to claim 13 where the first encoding scheme has a first allocation of storage units per the frame between a fixed codebook index and an adaptive codebook index, where the second encoding scheme has a second allocation of storage units per the frame between the fixed codebook index and the adaptive codebook index, where the second allocation differs from the first allocation, and where the second allocation of storage units per frame allocates a greater number of storage units to the adaptive codebook index than the first allocation of storage units to facilitate long-term predictive coding on a subframe-by-subframe basis.

22. (currently amended) The speech encoding system according to claim 13 where the first encoding scheme has a first allocation of storage units per the frame between a fixed codebook index and an adaptive codebook index, where the second encoding scheme has a second allocation of storage units per the frame between the fixed codebook index and the adaptive codebook index, where the second allocation differs from the first allocation, and where

the first allocation of storage units per frame allocates a greater number of storage units for the fixed codebook index than the second allocation does to reduce a quantization error associated with the fixed codebook index.

23. (currently amended) The speech encoding system according to claim 13 where the first encoding scheme has a first allocation of storage units per the frame between a fixed codebook index and an adaptive codebook index, where the second encoding scheme has a second allocation of storage units per the frame between the fixed codebook index and the adaptive codebook index, where the second allocation differs from the first allocation, and where the second encoding scheme has a higher allocation ratio than the first encoding scheme, the allocation ratio defined by a number of storage units allocated to the adaptive codebook index divided by the number of storage units allocated to the adaptive codebook index plus the fixed codebook index.

24. (currently amended) The speech encoding system according to claim 13 where, the selected rate for coding the input speech signal is full-rate, where the first encoding scheme uses the first frame type for coding the speech signal at the full-rate and the second encoding scheme uses the second frame type for coding the speech signal at the full-rate.

25. (previously presented) The speech encoding system according to claim 13 where, if the selected rate is a higher-rate coding, the first encoding scheme uses the first frame type and the second encoding scheme uses the second frame type, and if the selected rate is a lower-rate coding the first encoding scheme uses a third frame type and the second encoding scheme uses a fourth frame type.

26. (currently amended) The method according to claim ~~17~~19 where the second allocation of storage units per frame allocates a greater number of storage units to the adaptive codebook index than the first allocation of storage units to facilitate long-term predictive coding on a subframe-by-subframe basis.

27. (currently amended) The method according to claim ~~17~~19 where the first allocation of storage units per frame allocates a greater number of storage units for the fixed codebook index than the second allocation does to reduce a quantization error associated with the fixed codebook index.

28. (currently amended) The method according to claim ~~17~~19 where the second encoding scheme has a higher allocation ratio than the first encoding scheme, the allocation ratio defined by a number of storage units allocated to the adaptive codebook index divided by the number of storage units allocated to the adaptive codebook index plus the fixed codebook index.

29. (previously presented) The method according to claim 17 where, the selected rate for coding the speech signal is full-rate, where the first encoding scheme uses the first frame type for coding the speech signal at the full-rate and the second encoding scheme uses the second frame type for coding the speech signal at the full-rate.

30. (previously presented) The method according to claim 17 where, if the selected rate is a higher-rate coding, the first encoding scheme uses the first frame type and the second encoding scheme uses the second frame type, and if the selected rate is a lower-rate coding the first encoding scheme uses a third frame type and the second encoding scheme uses a fourth frame type.

31. (previously presented) A speech encoding method comprising:

receiving a speech frame for encoding;

classifying said speech frame as a voiced speech frame if said speech frame includes a voiced speech component;

designating said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, designating said voiced speech frame as a non-stationary voiced speech frame; and

allocating a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

allocating a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

determining whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate;

using a first frame type to encode said stationary voiced speech frame if said encoding rate is said high encoding rate;

using a third frame type to encode said stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said first frame type allocates 25 bits for filter coefficient indicators, 1 bit for a type indicator, 8 bits for said adaptive codebook index, 120 bits for said fixed codebook index, 6 bits for an adaptive codebook gain, and 10 bits for a fixed codebook gain.

32 (cancelled)

33. (previously presented) The speech encoding method of claim 31 further comprising: transmitting said bits to a decoding system.

34-35 (cancelled)

36. (currently amended) The speech encoding method of claim 31 where said third frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 7 bits for said adaptive codebook index, 39 bits for said fixed codebook index, 4 bits for ~~an~~said adaptive codebook gain, and 8 bits for ~~a~~said fixed codebook gain.

37-39 (cancelled)

40. (previously presented) A speech encoding system comprising:

a receiver configured to receive a speech frame for encoding;

a classifier configured to classify said speech frame as a voiced speech frame if said speech frame includes a voiced speech component, said classifier further configured to designate said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, said classifier designates said voiced speech frame as a non-stationary voiced speech frame; and

an encoder configured to allocate a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to allocate a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to: determine whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate, use a first frame type to encode said stationary voiced speech frame if said encoding rate is said high encoding rate, and use a third frame type to encode said stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said first frame type allocates 25 bits for filter coefficient indicators, 1 bit for a type indicator, 8 bits for said adaptive codebook index, 120 bits for said fixed codebook index, 6 bits for an adaptive codebook gain, and 10 bits for a fixed codebook gain.

41 (cancelled)

42. (previously presented) The speech encoding system of claim 40 further comprising: a transmitter configured to transmit said bits to a decoding system.

43-44 (cancelled)

45. (currently amended) The speech encoding system of claim 40 where said third frame type allocates 21 bits for filter coefficient indicators, 1 bit for ~~a~~said type indicator, 7 bits for said adaptive codebook index, 39 bits for said fixed codebook index, 4 bits for ~~an~~said adaptive codebook gain, and 8 bits for ~~a~~said fixed codebook gain.

46-48 (cancelled)

49. (currently amended) The speech encoding system of claim 1, wherein said second frame type allocates 27 bits for filter coefficient indicators, 1 bit for ~~a~~said type indicator, 26 bits for said adaptive codebook index, 88 bits for said fixed codebook index, and 28 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

50. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a triggering characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the speech signal for a frame associated with the interval, the first encoding scheme having a pre-processing procedure for processing the input~~ted~~ speech signal to form a revised speech signal biased toward a generally ideal voiced and stationary characteristic; and

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon the detection or absence of the triggering characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 27 bits for filter coefficient indicators, 1 bit for a type indicator, 26 bits for ~~said~~an adaptive codebook index, 88 bits for ~~said~~a fixed codebook index, and 28 bits for an adaptive codebook gain and a fixed codebook gain.

51. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a triggering characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the speech signal for a frame associated with the interval, the first encoding

scheme having a pre-processing procedure for processing the input~~ted~~ speech signal to form a revised speech signal biased toward a generally ideal voiced and stationary characteristic; and

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon the detection or absence of the triggering characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 7 bits for ~~said~~an adaptive codebook index, 39 bits for ~~said~~a fixed codebook index, 4 bits for an adaptive codebook gain, and 8 bits for a fixed codebook gain.

52. (currently amended) The speech encoding system of claim 51, wherein said second frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

53. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a triggering characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the input speech signal for a frame associated with the interval, the first encoding scheme having a pre-processing procedure for processing the input~~ted~~ speech signal to

form a revised speech signal biased toward a generally ideal voiced and stationary characteristic; and

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon the detection or absence of the triggering characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 14 bits for ~~said~~an adaptive codebook index, 30 bits for ~~said~~a fixed codebook index, 14 bits for an adaptive codebook gain and a fixed codebook gain.

54. (currently amended) The speech encoding system of claim 13, wherein said second frame type allocates 27 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 26 bits for said adaptive codebook index, 88 bits for said fixed codebook index, and 28 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

55. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a generally voiced and generally stationary characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the input speech signal for a frame associated with the interval, the second

encoding scheme having long-term prediction procedure for processing the input~~ted~~ speech signal on a sub-frame-by-subframe basis;

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon said detection or absence of the generally voiced and generally stationary characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 27 bits for filter coefficient indicators, 1 bit for a type indicator, 26 bits for ~~said~~an adaptive codebook index, 88 bits for ~~said~~a fixed codebook index, and 28 bits for an adaptive codebook gain and a fixed codebook gain.

56. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a generally voiced and generally stationary characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the input speech signal for a frame associated with the interval, the second encoding scheme having long-term prediction procedure for processing the input~~ted~~ speech signal on a sub-frame-by-subframe basis;

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon said detection or absence of the generally voiced and generally stationary characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the input speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 7 bits for ~~said~~an adaptive codebook index, 39 bits for ~~said~~a fixed codebook index, 4 bits for an adaptive codebook gain, and 8 bits for a fixed codebook gain.

57. (currently amended) The speech encoding system of claim 56, wherein said second frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

58. (currently amended) A speech encoding system comprising:

a detector for detecting whether an input speech signal generally has a generally voiced and generally stationary characteristic during an interval;

an encoder supporting at least one of a first encoding scheme and a second encoding scheme applicable to the input speech signal for a frame associated with the interval, the second encoding scheme having long-term prediction procedure for processing the input~~ted~~ speech signal on a sub-frame-by-subframe basis;

a selector for selecting one of the first encoding scheme and the second encoding scheme based upon said detection or absence of the generally voiced and generally stationary characteristic in the interval of the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the input speech signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 14 bits for ~~said~~an adaptive codebook index, 30 bits for ~~said~~a fixed codebook index, 14 bits for an adaptive codebook gain and a fixed codebook gain.

59. (currently amended) The speech encoding method of claim 17, wherein said second frame type allocates 27 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 26 bits for said adaptive codebook index, 88 bits for said fixed codebook index, and 28 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

60. (currently amended) A speech encoding method comprising the steps of:

detecting whether an input speech signal has a triggering characteristic during an interval;

selecting one of a first encoding scheme and a second encoding scheme, for application to the input speech signal for a frame associated with the interval, based upon said detection of the triggering characteristic; and

processing the input~~ted~~ speech signal in accordance with the first encoding scheme to form a revised speech signal biased toward a generally ideal voiced and stationary characteristic if the triggering characteristic is detected in the input speech signal;

wherein the first encoding scheme uses a first frame type for coding the speech signal at a selected rate and the second encoding scheme uses a second frame type for coding the speech

signal at the same selected rate, wherein the second frame type is different from the first frame type;

wherein said first frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 7 bits for ~~said~~an adaptive codebook index, 39 bits for ~~said~~a fixed codebook index, 4 bits for an adaptive codebook gain, and 8 bits for a fixed codebook gain.

61. (currently amended) The speech encoding method of claim 60, wherein said second frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

62. (previously presented) A speech encoding method comprising:

receiving a speech frame for encoding;

classifying said speech frame as a voiced speech frame if said speech frame includes a voiced speech component;

designating said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, designating said voiced speech frame as a non-stationary voiced speech frame; and

allocating a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

allocating a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

determining whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate;

using a first frame type to encode said stationary voiced speech frame if said encoding rate is said high encoding rate;

using a third frame type to encode said stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said third frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 7 bits for said adaptive codebook index, 39 bits for said fixed codebook index, 4 bits for an adaptive codebook gain, and 8 bits for a fixed codebook gain.

63. (previously presented) A speech encoding method comprising:

receiving a speech frame for encoding;

classifying said speech frame as a voiced speech frame if said speech frame includes a voiced speech component;

designating said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, designating said voiced speech frame as a non-stationary voiced speech frame; and

allocating a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

allocating a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

determining whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate;

using a second frame type to encode said non-stationary voiced speech frame if said encoding rate is said high encoding rate;

using a fourth frame type to encode said non-stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said second frame type allocates 27 bits for filter coefficient indicators, 1 bit for a type indicator, 26 bits for said adaptive codebook index, 88 bits for said fixed codebook index, and 28 bits for an adaptive codebook gain and a fixed codebook gain.

64. (currently amended) The speech encoding method of claim 63, wherein said fourth frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

65. (previously presented) A speech encoding method comprising:

receiving a speech frame for encoding;

classifying said speech frame as a voiced speech frame if said speech frame includes a voiced speech component;

designating said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, designating said voiced speech frame as a non-stationary voiced speech frame; and

allocating a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

allocating a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

determining whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate;

using a second frame type to encode said non-stationary voiced speech frame if said encoding rate is said high encoding rate;

using a fourth frame type to encode said non-stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said fourth frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for an adaptive codebook gain and a fixed codebook gain.

66. (previously presented) A speech encoding system comprising:

a receiver configured to receive a speech frame for encoding;

a classifier configured to classify said speech frame as a voiced speech frame if said speech frame includes a voiced speech component, said classifier further configured to designate said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, said classifier designates said voiced speech frame as a non-stationary voiced speech frame; and

an encoder configured to allocate a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to allocate a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to: determine whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate, use a first frame type to encode said stationary voiced speech frame if said encoding rate is said high encoding rate, and use a third frame type to encode said stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said third frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 7 bits for said adaptive codebook index, 39 bits for said fixed codebook index, 4 bits for an adaptive codebook gain, and 8 bits for a fixed codebook gain.

67. (previously presented) A speech encoding system comprising:

a receiver configured to receive a speech frame for encoding;

a classifier configured to classify said speech frame as a voiced speech frame if said speech frame includes a voiced speech component, said classifier further configured to designate said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, said classifier designates said voiced speech frame as a non-stationary voiced speech frame; and

an encoder configured to allocate a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to allocate a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to: determine whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate, use a second frame type to encode said non-stationary voiced speech frame if said encoding rate is said high encoding rate, and use a fourth frame type to encode said non-stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said second frame type allocates 27 bits for filter coefficient indicators, 1 bit for a type indicator, 26 bits for said adaptive codebook index, 88 bits for said fixed codebook index, and 28 bits for an adaptive codebook gain and a fixed codebook gain.

68. (currently amended) The speech encoding system of claim 67, wherein said fourth frame type allocates 21 bits for said filter coefficient indicators, 1 bit for ~~a~~said type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for ~~an~~said adaptive codebook gain and ~~a~~said fixed codebook gain.

69. (previously presented) A speech encoding system comprising:

a receiver configured to receive a speech frame for encoding;

a classifier configured to classify said speech frame as a voiced speech frame if said speech frame includes a voiced speech component, said classifier further configured to designate

said voiced speech frame as a stationary voiced speech frame if said voiced speech frame is generally stationary, otherwise, said classifier designates said voiced speech frame as a non-stationary voiced speech frame; and

an encoder configured to allocate a lesser number of bits for an adaptive codebook index of said stationary voiced speech frame than for an adaptive codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to allocate a greater number of bits for a fixed codebook index of said stationary voiced speech frame than for a fixed codebook index of said non-stationary voiced speech frame;

wherein said encoder is further configured to: determine whether an encoding rate for encoding said speech frame is a high encoding rate or a low encoding rate, use a second frame type to encode said non-stationary voiced speech frame if said encoding rate is said high encoding rate, and use a fourth frame type to encode said non-stationary voiced speech frame if said encoding rate is said low encoding rate;

wherein said fourth frame type allocates 21 bits for filter coefficient indicators, 1 bit for a type indicator, 14 bits for said adaptive codebook index, 30 bits for said fixed codebook index, 14 bits for an adaptive codebook gain and a fixed codebook gain.